Recent Research in Science and Technology 2011, 3(4): 21-27
ISSN: 2076-5061
www.recent-science.com

BOTANY

EX-SITU CONSERVATION OF MEDICINAL PLANTS AT UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE, KARNATAKA

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Abstract

Ex-situ conservation center for medicinal plants has been established at the Botanical Garden, University of Agricultural Sciences, GKVK, Bangalore. The Botanical garden of this university is of unique type adopting systematic classification for conservation plants of Karnataka in particular and country in general. The dedicated medicinal plants block has the collection of 114 species collected from all parts of the Karnataka, which are used by various tribals and local people to cure different ailments ranging from simple injuries, wounds, cuts, fever, diarrhea, ulcers, swelling, bone fractures, potency, antidote, skin care, night blindness, toothache, asthma, cough & cold. The present paper provides detailed account of medicinal plants conserved with their unique uses.

Keywords: Ex-situ conservation, Medicinal plants, Germplasm preservation

Introduction

India is one of the 12-mega biodiversity centers in the country with two hotspots of biodiversity, *viz*., Western Ghats and Eastern Himalayas. From the ages plants used as source of medicine and are closely associated with cultural traditions. Most of common medicinal plants are found in the forest. The use of medicinal herbs is still a traditional, continued by ethnic communities who are living in undulating planes and at foothills of dense forests. From ancient times in India, they are using a large number of wild and cultivated plants for the treatment of various ailments thus; a considerable amount of information on medicinal plants is available with these communities. The plant growing around form an integral part of their culture. These people are largely dependant on their traditional healing system for their healthcare and the information is passed on from generation to generation through the word of mouth. There is little or nothing in written. In earlier day many of the plants used by tribal communities are at the verge of extinction due to over exploitation and for many plants there are no information about the identity and the proper usage and there will be mis-identification for many species. In order to maintain a plant repository of species in danger, which are largely used by tribal communities from ages and also to make proper identification of all those plants with information on uses, the garden has established a dedicated medicinal plants block with aim to conserve and disseminate the information about the usage and the status of the plants.

Some important plant conserved in Botanical Garden *Saraca asoca* (Roxb.) Dewilde. *Dipterocarpus indicus* Bedd. *Calophyllum inophyllum* L. *Canthium dicoccum* (Gacrtn.) J & B. *Garcinia indica* (Dupetit-Thw.) Choisy. *Kingiodendron pinnatum* (Roxb. ex DC.) Harms. *Oroxylum indicum* (L.) Vent. *Xylia xylocarpa* (Roxb.) Taub Exsitu conservation is one of the important aspect in conserving the species under threat[1]

Methodology

This Garden Established in 1973 (November 1st 1973) Total area 65 acres. The garden is divided into 10 blocks with Block-1 earmarked for Medicinal plants; Medicinal plants were collected from all over Karnataka and their identification is confirmed with the help of local floras[2, 5, 6, 7.] and literature.

Information on use of medicinal plants was collected from local elder persons of the family. The vernacular names given by the informers were confirmed with local flora and also their botanical name, family and local name were identified with the help of available literature[3,4,10].

Result and Discussion

Total of 114 plants species belonging to 104 genera and 50 families have been conserved in medicinal plants block of Botanical Garden. The data on ethno-medicinal uses with method of drugs administration in different ailments were presented. These plants are being used by various ethnic groups for the treatment of various diseases ranging from simple injuries, wounds, cuts, fever, diarrhea, ulcers, swelling, bone fractures, potency, antidote, skin care, night blindness, toothache, asthma, cough & cold

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(Table 1). Based on the data collected by consulting various ethnic groups and local people an analysis has been done on the use of different parts of plants as source of medicine. The analysis showed that leaves, bark and root are the major source of medicine having the percent use of 42.98%, 42.11% and 37.72%, respectively (Fig. 1). The medicinal plants with root as medicinal part need to be given more attention for conservation as collection of such plants will lead to the endangerness of those plants. Those information need to be disseminate in the public for sustainable utilization.

Fig 1: Percentage of different parts of the medicinal plants used by tribal and local people

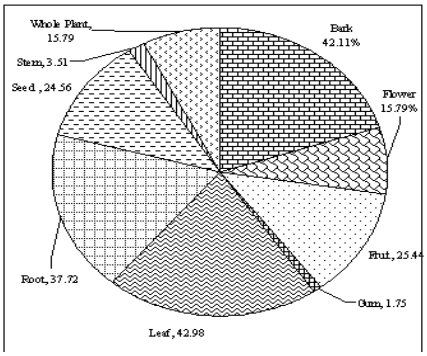

Table 1: List of medicinal plants conserved in the medicinal plants block of Botanical Garden, University of Agricultural Sciences, Bangalore with their uses

Plant name/Family/Local name	Uses
Abrus precatorius L./ Fabaceae/Gulganji	The seed extract exhibited antischistosomal activity in male hamsters. It is also useful in the treatment of hepatitis and AIDS Uterine stimulant, abortifacient, toxic. Seeds teratogenic. Detoxified seed 1-3 g powder. Root powder 3-6g.
Abutilon indicum (L.) Sweet/ Malvaceae/Shimudre gida	Dried, whole plant-febrifuge, anthelmintic, demulcent, diuretic, anti-inflammatory. Seeds-demulcent leaf in piles.
Acacia farnesiana (L.) Willd/ Mimosaceae/Kiri jali.	Bark-astringent, demulcent, anthelmintic, antidysenteric, anti-inflammatory (used in stomatitis, ulcers, swollen gums, dental caries, bronchitis, skin diseases).
Acacia ferruginea DC/ Mimosaceae/Kiri banni.	Cutch from wood-powerful astringent (in urinary and vaginal discharge), antidiarrhoeal, haemostatic; used for treating excessive mucous discharges, haemorrhages, relaxed conditions of gums, throat and mouth, stomatitis, irritable bowel; also used as an antileprotic drug.
Acalypha fruticosa Forsk/ Euphorbiaceae /Chinni mara	Leaves-stomachic, alterative; prescribed in digestive disorders, dyspepsia, colic, diarrhea.
Achras zapota L./ Sapotaceae/Sapota	Fruit-antibilious. Seed-diuretic. Fruit and bark-febrifuge. Chewing gum consists of approximately 20% chicle, plus sugar, corn syrup and flavourings.
Achyranthesaspera L. / Amaranthaceae /Uttarani	Root in piles, difficult labour, eye disease, wounds and jaundice. Seeds in sinus, ear disease renal problem and stomach disorders.
Adenanthera pavonia L./ Mimosaceae/Anegulganji.	Astringent and styptic (used in diarrhoea, haemorrhage from the stomach, haematuria), anti-inflammatory used for the treatment of paralysis. Seeds anticephalgic; also used for the treatment of paralysis.
Adhatoda vasica Nees/ Acanthaceae /Adusokadgida.	Expectorant (used in bronchial, asthmatic and pulmonary affections), antispasmodic, febrifuge.
Aegle marmelos (L.) Correa ex Roxb./ Rutaceae/Bilva patre.	Stomachic, antimicrobial (specific for diarrhoea, colitis, dysentery and enteric infections), digestive, astringent, spasmolytic, hypoglycemic.
Agave americana L./ Agavaceae/Kathhaale	Leaf juice-used for warts, cancerous ulcers and putrid tumours. Leaves are also used as a resolvant in syphilis and scrofula.
Alangiumsalvifolium (L.f.) Wangerin/ Alangiaceae/Ankole mara	Rootbark-astringent, spasmolytic, hypotensive, also diaphoretic and antipyretic. Used in haemorrhages, strangury and consumption.
Albizia lebbeck (Linn.) Benth./ Mimosaceae /Baage mara	Antiseptic, antibacterial, antiallergic, antidermatosis, antidysenteric. Bark-used in bronchitis; bark and seeds in piles; root in hemicrania; flowers in cough, bronchitis, tropical pulmonary eosinophilia, and asthma. Pod- antiprotozoal.
Aloe vera (L.) Burm.f./ Liliaceae/Lole sara	Leaf juice used in shampooing, cosmetic., antibiotic, skin infection, burns including sunburnsm liver and spleen ailments and for eye troubles, heeling of wounds, etc.
Alstonia scholaris (L.) R.Br./ Apocynaceae/Sapth parni	Bark-febrifuge, antiperiodic, spasmolytic, antidysenteric, uterine stimulant, hypotensive; used for internal fevers. Along with other therapeutic applications, stembark in phosphaturia and recommends it as a blood purifier.
Anacardium occidentale L./ Anacardiaceae/Godambi mara	Le used in cases of mental derangement, memory disturbances, palpitation of heart, rheumatic pericarditis, sexual debility. aves and bark-fungicidal, vermicidal, protozoicidal, antimicrobial
Anamirta cocculus W. & A. Kaakmaari./ Menispermaceae/Kaakmaari	Insecticide, antifungal; highly valued in skin diseases; used externally to kill lice and other parasites. neurological disorders and psychosis-related fear.

Andrographis paniculata (Burm.f.) Wall ex Nees./ Acanthaceae/Nelbevu	Hepatoprotective, cholinergic, antispasmodic, stomachic, anthelmintic, alterative, blood purifier, febrifuge. Used in jaundice and torpid liver, flatulence and diarrhoea of children, colic, strangulation of intestines and splenomegaly; also for cold and upper respiratory tract infections.
Annona muricata L./ Annonaceae/Mullu raama phala	Leaves-insecticide, anthelmintic, styptic, externally used as suppurant. Unripe and dried fruit-antidysenteric. Bark-powerful astringent, used as antidysenteric and vermifuge.
Ardisia solanacea Roxb./ Araucariaceae/Chitle	Leaves etan as salad, Berries yield a yellow dye. Roots used to cure fever, diarrhea and rheumatism.
Artabotry hexapetalus (R. Br.) (Linn. f.) Bhandari./Annonaceae./Manoranjani hoo	Cardiac stimulant, uterine stimulant, muscle relaxant. positive ionotropic and chronotropic, which could be partly cholinergic and partly resulting from vasodilatory action, presence of the volatile oil.
Artocarpus gomezianus Buch.- Ham./ Moraceae/Vate gida	Bark-when applied externally, draws out purulent matter; heals boils, cracked skin and pimples. Seeds-purgative, haemagglutinating. Stems -vermifuge.
Asparagus racemosus Willd./ Asparagaceae/Shaathavari	Used as a galactagogue and for disorders of female genitourinary tract; as a styptic and ulcer-healing agent; intestinal disinfectant and astringent in diarrhoea; as a nervine tonic, and in sexual debility for spermatogenesis puerperal diseases, lactic disorders, haematuria, bleeding disorders and also recommends it for hyperacidity.
Atalansia monophylla (L.) Correa/. Rutaceae/Kaadu nimbe	Oil from leaves and berry- antibacterial, antifungal. Leaves-a decoction is applied to cutaneous affections. Fruit-juice, antibilious, hemiplegia. The essential oil is used in paralysis.
Azadirachta indica A.Juss./ Meliaceae/Bhevu	Whole plant in piles, wound, skin diseases, eye diseases, toothache and antiseptic.
Azima tetracantha Lam/ Salvadoraceae/Bili uppin gida	Used in Diuretic, rheumatism, expectorant, antispasmodic given to women after confinement. Bark antiperiodic, astringent, expectorant. It also spasmogenic activity.
Barleria prionitis L./ Acanthaceae/Haladi gorate	Used in stomach disorders, urinary affections; mixed with honey and given to children with fever and catarrh; leaf juice is applied to lacerated soles of feet in the rainy season, mixed with coconut oil for pimples. diuretic. diaphoretic and expectorant. applied glandular swellings. antidontalgic, used for bleeding gums in Indian medicine. Ash, obtained from the whole plant used bronchial asthma.
Bauhinia purpurea L./ Caesalpiniaceae/Kanchi vala	Bark-astringent, antidiarrhoeal. dysentery. Extract of stems are used internally and externally for fractured bones. Plant is used in goitre. It exhibited antithyroid-like activity in experimental animals
Butea monosperma (Lam.) Taubert./ Fabaceae/Muttuga	Bark-astringent, styptic anthelmintic. Flowers- astringent, diuretic, emmenagogue (also given for leucorrhoea). A decoction of flowers is given in diarrhoea and haematuria, also to puerperal women. Seeds-clinical use of seeds as an anthelmintic drug is not considered safe in humans. Leaves-antibacterial. Stem bark- antifungal.
Caesalpinia pulcherrima Sw./ Caesalpiniaceae/Ratna gandi	Leaves-laxative, antipyretic. Dried leaves are used in erysipelas. Flowers-anthelmintic. Also used for cough and catarrh. Root-a decoction is prescribed in intermittent fevers. Bark- emmenagogue, abortifacient.
Callicarpa tomentosa (L.) Murray./ Verbenaceae/Tagadatti	Bark in skin troubles and fever, flower,:in diseases of nervous system and haemorrhage.
Calophyllum inophyllum L./ Clusiaceae/Sura honne	Seeds-specific for scabies and skin diseases, and for rheumatism, genitourinary and venereal diseases. Bark-juice is taken as purgative, ulcers. Root bark- antibacterial, indolent ulcers. Leaf-used in vertigo and migraine, chicken pox, skin inflammations, scabies, sunburn.
Calotropis gigantea (Linn.) R.Br./ Asclepiadaceae/Aekka	Flowers-stomachic, bechic, antiasthmatic. Milky juice- purgative Roots-used in lupus, tuberculous leprosy, syphilitic ulceration. Leaves-juice poisonous. Used in external swellings. All parts-used against bronchitis and asthma.
Canthium parviflorum Lam./ Rubiaceae/Kare gida	Leaves and fruits-astringent, antispasmodic; used against cough. A decoction of the root and leaves is given in flu. Bark-antidysenteric.
Capparis spinosa Linn./v Cappariadaceae/Maraat moggu	Anti-inflammatory, deobstruent to liver and spleen, diuretic, anthelmintic, vasoconstrictive. Bark-given in splenic, renal and hepatic complaints. Juice of leaves and fruits-anticystic, bactericidal and fungicidal. Dried flower buds-used in scurvy.
Capparis zeylanica L. Aathundi kaayi./ Cappariadaceae/Aathundi kaayi	Root bark-sedative, stomachic, anticholerin, diuretic febrifuge. Leaves-applied as poultice to piles, swellings, boils.
Cardiospermum halicacabum Linn./ Sapindaceae/Bekkin budde gida	Used in rheumatism, lumbago, skeletal fractures, nervous diseases, amenorrhoea, haemorrhoids, erysipelas.
Careya arborea Roxb./ Barringtoniaceae/Koulumara	Bark-demulcent, antipyretic and antipruritic, anthelmintic, antidiarrhoeal. An infusion of flowers is given after child birth.
Cassia auriculata L./ Caesalpiniaceae/Tangadi	Root in skin troubles; seed in eye troubles and diabetes.
Cassia fistula L./Caesalpiniaceae/Kakke gida	Whole plant in fever, cardiac disorders, jaundice, wounds and accidental wound.
Celastrus paniculata Willd./ Celastraceae/Ganguga hanbu	Seeds-nervine and brain tonic, diaphoretic, febrifugal, emetic. Seed-oil-used for treating mental depression, hysteria and for improving memory; also used for scabies, eczema, wounds, rheumatic pains, paralysis.
Chloroxylon swietenia DC./ Rutaceae.	Leaves-anti-inflammatory, antiseptic. A paste is applied to wounds; also in rheumatism.

	Bark-astringent. A decoction is used in contusions and for painful joints.
Chukrasia tabularis A.Juss./ Meliaceae.	Bark-astringent, febrifuge, antidiarrhoeic, spasmolytic, diuretic. The plant is used in skeletal fractures EtOH (50%) extract of the stem bark exhibited spasmolytic, hypotensive and diuretic activity. The saline extract of seeds showed haemagglutinating activity.
Clerodendrum phlomidis L.f. O.Ktze./ Verbenaceae.	Plant parts used in dyspepsia, stomachache, colic, cholera, dysentery, postnatal fever, during convalscence from measles. Root and bark-bitter tonic, used in debility and nervous disorders.
Clerodendrum serratum (L.) Moon./ Verbenaceae	Leaf in bronchial asthma, cough, piles, goiter and burning sensation; root in accidental wound.
Cocculus hirsutus (L.) Diels./ Menispermaceae/*Daagadi balli*	Root-laxative, sudorific, alterative, antirheumatic. Leaf- used externally for eczema, prurigo and inpetigo. A decoction of leaves is taken in eczema, leucorrhoea and gonorrhoea.
Cryptolepis buchananii Roem. & Schult./ Asclepiadaceae/Metaguli hambu	Blood-purifier, alterative. Used for rickets in children. A decoction of the stem is used as a supporting drug in paralysis; of the root bark in rheumatism.
Curculigo orchioides Gaertn./ Hypoxidaceae/Nela tengu	Nervine, adaptogenic, sedative, anticonvulsive, androgenic, anti-inflammatory and diuretic. Used in Jaundice, urinary disorders, skin diseases and asthma. Mucilaginous.
Cyclea arnotii (HK. F. & T.) Miers./ Menispermaceae.	Roots-used in smallpox, bone fractures, malarial fever, jaundice, stomachache.
Cyclea peltata (Lam.) H.K.f. and Thoms./ Menispermaceae/Hade balli	Root in pain, spree, cardiac diseases, hydrocele, burning sensation and poisoning
Decalepis hamiltonii Wight & Ar./ Asclepiadaceae/Makali beru	Root-appetizer, blood purifier, bacteriostatic.. The root powder is given to diabetics.
Desmostachya bipinnata (L.) Stapf./ Poaceae./*Dharbe*	Root-cooling, diuretic, galactagogue, astringent. Used for urinary calculi, and other diseases of the bladder. Clums-used in menorrhagia, dysentery, diarrhoea and in skin diseases. vaginal discharges and erysipelas.
Dichrostachys cinerea (L.) Wight & Arn./ Mimosaceae/Vaduvarad gida	Root-astringent and diuretic; used in renal affections, urinary calculi, also in rheumatism. Tender shoots-applied externally for ophthalmia.
Dodonaea viscosa (Linn.) Jacq./ Sapindaceae/Bandarki	Leaves-antiinflammatory and antibacterial febrifuge, embrocation of leaves is applied to sprains. Bark- astringent and anti inflammatory. Aerial parts-hypoglycaemic.
Embelia tsjeriam-cottam (Roemer & Schuttes.) A. DC./ Myrsinaceae./*Vaayu vilanga*	Fruit-antispasmodic, carminative, anthelmintic, antibacterial. Powdered fruit-used in dysentery. Plant-used in weak pulse rate.
Erythrina variegate var. Orientalis (L.) Merr. L./ Papilionaceae/Fabaceae.	Leaf-cathartic, diuretic, antiseptic, anti-inflammatory. Bark-antibilious, anthelmintic, febrifuge, astringent, expectorant. Different parts used as nervine sedative, antiepileptic, astringent, antiasthmatic and antiseptic. Bark is used in liver ailments, fever and rheumatism.
Eugenia uniflora Linn./ Myrtaceae/Chakra nerale	Fruit-used as a source of carotenoids and provitamin A Leaves-diuretic, antirheumatic, antifebrile. Used for lowering blood pressure, blood cholesterol, uric acid level, also for reducing body weight. Essential oil- digestive, carminative.
Euphorbia antiquorum L./ Euphorbiaceae/Jade kalle	Latex-purgative. Applied on burns. Plant-used in dropsy, anasarca, sores, venereal sores, syphilis; also in dysentery, bronchitis, asthma. Root-anthelmintic. Fresh stems-used for skin sores and scabies.
Evolvulus alsinoides L./ Convolvulaceae	Whole plant in hair growth, sterility in female, skin diseases, piles, cough.
Ficus benghalensis Linn./Moraceae/Aalad mara	Infusion of bark-used in diabetes, dysentery, and in seminal weakness, leucorrhoea, menorrhagia, nervous disorders, erysipelas, burning sensation. Milky juice and seeds-applied topically to sores, ulcers, cracked soles of the feet, rheumatic inflammations.
Ficus racemosa L./ Moraceae.	Astringent and antiseptic; used in threatened abortions, menorrhagia, leucorrhoea, urinary disorders, skin diseases, Unripe fruits-astringent, carminative, digestive, stomachic; used in diarrhoea, dyspepsia, dysentery, menorrhagia and haemorrhages.
Garcinia indica Choisy./ Clusiaceae/Punar pulli	Fruit-antiscorbutic, cholagogue, cooling, antibilious, emollient and demulcent. Butter-used for dysentery and diarrhoea with mucus. Applied externally to ulcerations, fissures of lips, chapped skin and skin diseases.
Gardenia gummifera L.f./ Rubiaceae/Bikki gida.	Resin in intermittent fever, nervous disorders, diabetes, skin diseases, liver disorder and wounds.
Gendarussa vulgaris Ness./ Acanthaceae/Kari lekke	Febrifuge, diaphoretic, emetic, emmenagogue. Infusion of leaves-given internally in cephalalgia, hemiplegia and facial paralysis. Fresh leaves-used topically in oedema and rheumatism.
Gymnema sylvestre (Ritz.) R.Br. ex Schult./ Asclepiadaceae./Madhunaashini	Leaf in headache, hydrocele, leprosy and poisoning.
Haldina cordifolia (Roxb.) Ridsdale./ Rubiaceae/Arasina tega.	Antibacterial, antiseptic, antidysenteric, antibilious (used in biliary colic), febrifuge. Root-astringent.
Helicteres isora L./ Sterculiaceae/Edamuri	Pods and bark-antidiarrhoeal, astringent, antibilious. Bark and root-antigalactic

	demulcent, expectorant Leaf-paste used against skin diseases. Seeds- aqueous extract administered in colic and dysentery.
Hemidesmus indicus (L.) R.Br./ Asclepiadaceae/Sogade beru	Bloodpurifier, antisyphilitic, antileucorrhoeic, galactogenic, antidiarrhoeal, antirheumatic, febrifuge, alterative. Roots used against gonorrhoea, leucoderma, bleeding piles, jaundice and dysentery.
Hibiscus rosa-sinensis Linn./ Malvaceae/Daasvaal	Flower-used in impotency, bronchial catarrh. Flower and bark-emmenagogue. Leaf-stimulates expulsion of placenta after childbirth; laxative, anodyne. Flower and root-used in menorrhagia.
Hiptage benghalensis Kurz./ Malpighiaceae*./Adar ganchi hambu*	Kernel of seeds is prescribed for reducing abdominal girth (obesity). Leaves-used in chronic rheumatism, asthma and skin diseases. Bark-used in bronchial asthma.
Holarrhena pubescens (Buch.-Ham) Wall. ex G. Don./ Apocynaceae*./Kodamurike*	Root and bark-used in amoebic dysentery. Bark-astringent, anthelmintic, amoebicidal, diuretic. Used in colic, dyspepsia, piles, diseases of the skin and spleen. Seed-antibilious. Used for promoting conception, also for toning up vaginal tissues after delivery.
Ipomoea aquatica Forsk./ Convolvulaceae/Bili hambu	Emetic and purgative. Used as an antidote to arsenical or opium poisoning. Plant juice is used for liver complaints; buds for ringworm.
Ixora coccinea Linn./ Rubiaceae*./*Maale hoo	Herb-astringent, antiseptic, blood-purifier, sedative, antileucorrhoeic, antidiarrhoeal, anti-catarrhal. Used in dysmenorrhoea, haemoptysis, bronchitis. Root-astringent, antiseptic Flowers-prescribed in dysentery and dysmenorrhoea.
Jatropha curcas L./ Euphorbiaceae/Oudula	Seed in constipation, poisoning; oil in leprosy.
Jatropha gossypiifolia L./ Euphorbiaceae/Chikka kadu haralu	Leaf and seed-purgative. Leaf-antidermatosis. Bark-emmenagogue. Seed-emetic. Seed fatty oil-used in paralytic affections, also in skin diseases.
Kalanchoe pinnata (Lam.) Pers./ Crassulaceae*./*Kaadubasale	Leaf-disinfectant, antibacterial, Leaves mixed with *Aegle marmelos,* are given in blood and amoebic dysentery. control diabetes. Leaves yield glycosides of quercetin and kaempferol, and fumaric acid. Plant extracts-antifungal.
Lawsonia inermis L./ Lythraceae/Mehandi	Leaf in consumption, intrinsic hemorrhage, skin troubles, leprosy, headache, cardiac, deodorant, sedative and ulcers.
Madhuca longifolia (Koen.) Macb./ Sapotaceae/Hippe mara	Seed oil-galactogenic, anticephalgic, emetic. Used in pneumonia, skin diseases, piles. Bark Used for tonsilitis, gum troubles, diabetes, ulcers. Bark, seed oil and gum-antirheumatic.
Mangifera indica Linn./ Anacardiaceae/Mavu	Used in diabetes, externally in burns and scalds. Kernel-given in diarrhoea, diabetes and menstrual disorders. Stem bark-astringent; used for haemorrhages, diarrhoea, rheumatism.
Mesua ferrea L./ Clusiaceae/Naagasampige	Flowers-astringent, haemostatic, anti-inflammatory, stomachic. Used in cough, bleeding piles, metrorrhagia. Essential oil from stamens-antibacterial, antifungal.
Michelia champaca L./ Magnoliaceae/Sampige	Fruits-used for dyspepsia and renal diseases. Bark-stimulant, diuretic and febrifuge. flower oil is used as an application in cephalalgia, gout and rheumatism; fruits and seeds for healing cracks in feet.
Mimusops elengi Linn./ Sapotaceae/Bakula	Fruit-astringent; used in chronic dysentery. Bark-given for promoting fertility in women.;
Morinda citrifolia L./ Rubiaceae/Haladi pavati	Fruit-emmenagogue, antileucorrhoeic, antidysenteric, anticatarrhal (used in throat infections and asthma). Root and leaf-cathartic, febrifuge, anti-inflammatory (used in gout).
Moringa pterygospermum Gaertn./ Moringaceae/Nuggekayi mara	All parts of the tree are reported to be used as cardiac and circulatory stimulant. fried pods are used by diabetics. Used for nervous debility, asthma, enlarged liver and spleen, deep-seated inflammation and as diuretic in calculus affection. Decoction is used as a gargle in hoarseness and sore throat.. Leaf-juice is used in hiccough (emetic in high doses);
Myxopyrum serralutum A.W. Hill./ Oleaceae/Chadar mallige	Leaves-used with clarified butter in cough, asthma, chest diseases; also in nervous complaints and rheumatism. Oil extract of the leaves is used for massage in fever, headache and backaches.
Naravelia zeylanica (Linn.) DC./ Ranunculaceae/Chara chara balli	Used for colic, headache, inflammations, rheumatic pain, wounds and ulcers, intestinal worms, leprosy and skin diseases. Saps of stem-effective in onychia.
Niigirianthus ciliatus (Nees.) Bremek./ Acanthaceae/Kadu gurgi	Used against neurological disorders, sciatica, glandular swellings and oedema
Opuntia strictus (Haw.) Haw. *Var. dillenii* (Ker. Gawl.) L./ Cactaceae/Papas kalli	Leaves-applied as poultice to allay inflammation and heat. Fruit-baked and given in whooping cough.
Oroxylum indicum Vent./ Bignoniaceae/Tigade mara	Tender fruit-carminative, stomachic, spasmolytic. Seed- purgative. Root bark-astringent, antidiarrhoeal. Used for amoebic dysentery. Bark-antirheumatic, diuretic.
Pandanus facicularis Lam./ Pandanaceae/*Thaale hoo*	Flower- Used for headache, ulcers, dysuria, scabies and other skin diseases. Root-used for osteoarthritis, leucorrhoea and amenorrhoea; contraindicated during pregnancy. Leaves- used for skin diseases, small pox, scabies, leprosy.
Phyllanthus emblica Linn./ Euphorbiaceae/Bettada nelli	Used in jaundice, dyspepsia, bacillary dysentery, eye trouble and as a gastrointestinal tonic. Juice with turmeric powder and honey is prescribed in diabetes insipidus. Seed-Used in bronchitis. Leaf-juice is given in vomiting.
Plumbago auriculata Lam./	Root-intestinal flora normalizer, stimulates digestive processes; used for dyspepsia.;

Plumbaginaceae.*Neeli chitramoola*	used externally in leprosy and other obstinate skin diseases. A cold infusion is used for influenza and black-water fever.
Plumbago zeylanica L./ Plumbaginaceae./Bili chithra moola	Root in piles, filarial, diarrhea, stomach diseases, cough, anemia and obesity.
Polyalthia longifolia (Sonn.) Thw./ Annonaceae/Ashoka	Bark in rheumatism, worm infestation, skin diseases and fever.
Pongamia pinnata (L.) Pierre./ Fabaceae/Honge	Oil-applied in scabies, herpes, leucoderma and other cutaneous diseases; over chest in pneumonia and cold; also used internally as cholagogue in sluggish liver. Leaves-juice in flatulence, dyspepsia, diarrhea and cough.
Pseudocalymma alliaceum (Lam.) Standwith./ Bignoniaceae./Bellullivasane gida	The entire plant-roots, vine and leaves, is useful. It is used to reduce fevers, treat colds, throat, and respiratory ailments. The plant is said to help get rid of bad luck, and has both male and female parts
Psidium guajava L./ Myrtaceae/Sibe hannu	Unripe fruit-antidiarrhoeal. Leaves-used for dysentery, diabetes, cough and cold. Flowers- anthelmintic. Guava juice may be helpful in regulating blood sugar in type 2 diabetes and syndrome X.
Punica granatum L./ Punicaceae/Dalimbe	Rind of fruit-astringent, stomachic, digestive. Used for diarrhoea, dysentery, colitis, dyspepsia and uterine disorders. Leaf-used in stomatitis. juice of fruit-refrigerant, cosive, antiemetic; given as an adjuvant in diarrhoea, dyspepsia, biliousness, inflammations of the stomach, palpitation, excessive thirst and fevers.
Quisqualis indica Linn./Combretaceae.*Rangoon kempu malle*	Fruits and seeds- anthelmintic Seeds-diarrhoea and fever. Macerated in oil, are applied to parasitic skin diseases. Leaves-decoction prescribed in abdominal pain.
Rauvolfia serpentine (L.) Benth. ex. Kurz./Apocynaceae/Sarpgandi	Root-increase uterine contractions and for expulsion of fetus in difficult cases. root induces bradycardia, hypotension, sedation. It finds application in hypochondria, neuropsychiatric disorders, psychosis and schizophrenia.
Rauvolfia tetraphylla L./Apocynaceae/Doddchandrike	Root-sedative, hypertensive. Plant juice, mixed with castor oil, is applied to skin diseases and to destroy parasites.
Santalum album L./ Santalaceae/Shrigandha	Cooling, diaphoretic, diuretic, expectorant, antiseptic Used as a urinary antiseptic in chronic cystitis and sexually transmitted diseases. A paste is applied headache, during fevers and on burns, local inflammations and skin diseases. Used as urinary antiseptic in dysuria, urethral discharges and diseases of gallbladder.
Saraca asoca (Roxb) De Wilde./ Caesalpiniaceae/Ashokad gida	Bark-used for suppressedmenses, leucorrhoea, menstrual pain, menorrhagia, complaints of menopause. Also used for dyspepsia, biliousness, colic, burning sensation. Flower bleeding piles and retention of urine.
Stachytarpheta jamaicensis (L.) Vahl./ Verbenaceae/Kari uttarani	Febrifuge, anti-inflammatory. the plant is externally used for purulent ulcers and internally for rheumatic inflammations and fever. An infusion of the bark is used against diarrhoea and dysentery.
Syzygium cuminii (L.) Skeels./ Myrtaceae	Fruit-stomachic, carminative, diuretic. Bark and seed- antidiarrhoeal. Seed-hypoglycaemic. Leaf-antibacterial, antidysenteric.
Syzygium cerasoideum (Roxb.) Chatterjee & Kanjilal f./Myrtaceae.	Fruit-antirheumatic. hypoglycaemic. Root-rubefacient. Bark-bitter, astringent; given in dysentery, biliousness and bronchitis. Root infusion is applied and rubbed over painful joints. Aerial parts exhibit hypoglycemic activity.
Terminalia arjuna (Roxb.) W. & A./Combretaceae/Bili matti	Bark-used as a cardioprotective and cardiotonic in angina and poor coronary circulation; as a diuretic in cirrhosis of liver and for symptomatic relief in hypertension; externally in skin diseases, herpes and leukoderma. Fruit-deobstruent.
Terminalia bellirica Roxb./ Combretaceae/Tare mara	Used in prescriptions for diarrhoea, dyspepsia, biliousness; cough, bronchitis and upper respiratory tract infections, tropical pulmonary eosinophilia and allergic eruptions.
Terminalia chebula Retz./ Combretaceae/Tore matti	Used in prescriptions for treating flatulence, constipation, diarrhoea, dysentery, cyst, digestive disorders, vomiting, enlarged liver and spleen, cough and bronchial asthma, and for metabolic harmony. Bark-diuretic
Thespesia populnea (L.) Soland. ex. Corr./ Malvaceae/Hovarsi mara	Specific for skin diseases. Root, fruit and leaf-used in psoriasis, scabies and other cutaneous diseases. Bark- used for the treatment of hemorrhoids and chronic dysentery.
Tragia involucrata Linn./ Euphorbiaceae/Sanna turachi	Root-febrifuge, diaphoretic, alterative, blood purifier. fever when the extremities are cold; also for pain in arms and legs. Used as a blood purifier in venereal diseases; applied externally to skin eruptions. Fruit-paste used in baldness.
Tylophora indica (N. Burm.) Merrill./ Apocynaceae.	Leaves-used for bronchial asthma and allergic rhinitis
Vitex negundo L. var. Negundo/ Verbenaceae/Lakki gida	Seeds-prescribed in spermatorrhoea, and for promoting spermatogenesis. Also given as a rejuvenating tonic for retarding old age and for retaining and promoting virility. Leaf-anti-inflammatory, analgesic; removes foetid discharges and worms from ulcers.
Woodfordia fruticosa (L.) Kurtz./ Lythraceae/Tamra pushti	Dried flower-purifies blood, heals ulcers, astringent, prescribed in haemetemesis, erysipelas, dysentery, diarrhoea, menorrhagia, leucorrhoea. Flowers are used in alcohol-based tonics for fermentation

Conclusion

Some of the common medicinal plants of Karnataka are used in various systems medicines. It is our responsibility to grow and conserve all the medicinal plants for the future by means *ex-situ* conservation, germplasm preservation and commercial cultivation. It is necessary to characterize the active principles contain in them, avoiding adulteration and to authenticate the genuine drugs for the well fare of human beings.

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